TITLE INDEX

Page

GEOPHYSICS
Volume 322

THE BEHAVIOR OF THE MAGNETOSPHERE DURING REVERSALS, by S.V. Starchenko and V.P. Shcherbakov..... 1
INTERACTION OF ISOLATED OIL-BEARING STRATA DURING CONCURRENT EXTRACTION, by E. Kh. Azimov, T.M. Ibragimov, S.S. Salmanova and M.T. Abasov..... 7
SOME CHARACTERISTICS OF THE DEFORMATION OF A JOINTED MEDIUM SUBJECTED TO SHEAR STRESS, by R.V. Gol'dshteyn and Yu. V. Zhitnikov..... 11
CONDITIONS FOR ACTIVATION OR REJUVENATION OF TECTONICALLY-INDUCED SLIP FAULTS AND THEIR RESULTANT SEISMICITY, by S.S. Demin and L.V. Nikitin..... 14
CHANGES IN THE IONOSPHERE DURING THE PERSIAN GULF WAR, by O.A. Pokhotelov, V.A. Liperovskiy, Yu. P. Formichev, L.N. Rubtsov, O.A. Alimov, Z.S. Sharadze and R. Kh. Liperovskaya..... 21

Volume 323

AGE OF THE MAGELLAN SEAMOUNTS (PACIFIC OCEAN) AS INDICATED BY GEOMAGNETIC DATA, by Yu. V. Brusilovskiy, A.M. Gorodnitskiy and B.A. Sokolov..... 1
DISCHARGE AND STATIC STABILITY OF HOT WATERS IN LAKE BAIKAL, by V.A. Golubev..... 5
ANISOTROPY OF HIGH-FREQUENCY SEISMIC NOISE ASSOCIATED WITH LOCAL EARTHQUAKES, by A.A. Berdyyev, V.A. Mukhamedov, V.A. Muradov and B.A. Seidova..... 11
TIME-DEPENDENT VARIATIONS IN THE FRACTAL DIMENSION OF SEISMICITY, by V.A. Mukhamedov, B.S. Karyyev and Ye. G. Kanel..... 17
RECENT TRENDS IN ARCTIC CLIMATE, by Ye. I. Aleksandrov and A.P. Nagurnyi..... 25
FRACTAL MECHANICS OF DEFORMABLE MEDIA AND FAILURE TOPOLOGY OF SOLIDS, by A.S. Balankin..... 29

Volume 323A

CORRELATION OF THE APPARENT PERIODS OF WAVES GENERATED BY

Page

WEAK EARTHQUAKES OF THE BAIKAL RIFT ZONE WITH CERTAIN SEISMIC PARAMETERS, by A.V. Solonenko and N.V. Solonenko..... 1
ON THE EQUILIBRIUM MAXWELL-BOLTZMANN DISTRIBUTION IN THE ATMOSPHERE OF THE EARTH, by V.P. Val'teran..... 6
VARIABILITY OF CARBON-ISOTOPE COMPOSITIONS IN THE FREE METHANE OF THE LOVOZERO ALKALIC BLOCK, by G.I. Voytov, Yu. M. Miller and V.A. Nivin..... 8
WAVELIKE GLOBAL GEOLOGICAL DEFORMATIONS AS FACTORS INDUCING STRONG EARTHQUAKES: THE CASE OF THE CAUCASUS, by V.P. Rudakov..... 14
FREQUENCY DIVISION IN THE SPECTRA OF SURFACE GRAVITY WAVES, by S.A. Arsen'yev, A. Yu. Gubar', L.N. Rykunov and N.K. Shelkovnikov..... 18
EFFECT OF THE TURBULENT EKMAN LAYER ON THE DYNAMICS OF LARGE-SCALE ATMOSPHERIC MOTIONS, by F.V. Dolzhanskiy and D. Yu. Manin.... 22
A MODEL OF THE STRUCTURE AND EVOLUTION OF THE THARSIS RISE ON MARS, by A.M. Nikishin and K.I. Marchenkov..... 28

Volume 324

BRIEF CHANGES IN GROUNDWATER LEVEL AS INDICATORS AND PREDICTORS OF GEODYNAMIC ACTIVITY IN THE CIS-KOPETDAG FAULT ZONE, by I.G. Kissin, V.M. Belikov and G.A. Ishankuliyev..... 1
RADIATION BALANCE AND TEMPERATURE CHANGES INDUCED BY OZONE VARIATION IN THE ATMOSPHERE BETWEEN 1980 AND 1990, by I.L. Karol' and V.A. Frol'kis..... 7
LOCAL INSTABILITY OF SPREADING AS A CONSEQUENCE OF MIGRATION OF THE ACTIVITY ON DIVERGENT PLATE BOUNDARIES, by S.V. Aplonov, S.V. Zakharov and A.A. Trunin..... 12
THE EFFECTS OF SOLAR GEOMAGNETIC ACTIVITY ON THE EVOLUTION OF CYCLONIC CIRCULATION OVER THE MEDITERRANEAN, by G.A. Grishin, Ye. I. Kalinin, T.M. Bayankina and D.I. Ponyavin..... 18

Volume 325

STRUCTURE OF SEISMICALLY GENERATED PULSED ELECTROMAGNETIC EMISSIONS, by V.A. Morgunov and I.V. Matveyev..... 1
PRESENT-DAY ENDOGENOUS REGIMES OF THE CRUST IN THE SOUTH CHINA SEA AREA, by G.I. Reysner and V.P. Chichagov..... 5
INTERBLOCK SELF-REGULATION IN THE STRUCTURAL HIERARCHY OF THE CRUST, by V.A. Smirnov, A.G. Ivanov-Rostovtsev and L.G. Kolotilo..... 13
NEW DATA ON HYDROTHERMAL ACTIVITY AND SULFIDE ORES ON A SEGMENT OF THE EAST PACIFIC RISE BETWEEN 12° 40' AND 12°50' N, OBTAINED WITH THE *RIFT* GEOPHYSICAL INSTRUMENTAL PACKAGE, by I.S. Gramberg, V.D. Kaminskiy, A.F. Kunin, Ye. D. Lisitsyn, A.L. Piskarev, G.A. Cherkashev and M. Yu. Yanevich..... 17
OBSERVATION OF THE EARTH'S ANOMALOUS MAGNETIC FIELD IN THE STRATOSPHERE, by Yu. P. Tsvetkov..... 21

Page

SHORT-RANGE PREDICTION OF STRONG EARTHQUAKES BY RADIO METHODS, by I.L. Gufel'd and V.F. Marenko..... 24
REAL-TIME PREDICTION OF VERY DISTANT EARTHQUAKES NOW POSSIBLE, by I.I. Kalinnikov, V.P. Matyunin, N.A. Nyunina and V.V. Getmanskaya..... 29
SPONTANEOUS ORGANIZATION OF BACKFILL BODIES IN MINES TO FORM CELLULAR STRUCTURES WITH A PASSIVE CORE AND A LOAD-BEARING SHELL, by M.V. Kurlenya, V.N. Oparin, G.G. Matasova, P.F. Morozov, A.P. Tapsiyev and A.V. Semenov..... 33

Volume 325A

A NEW TYPE OF INSTABILITY OF LONG WAVES IN SHALLOW WATER: NONLINEAR ALTERNATING-SIGN VISCOSITY IN TIDES, by S.A. Arsen'yev, A. Yu. Gubar', L.N. Rykunov and N.K. Shelkovnikov..... 1
MODELING OF THREE-DIMENSIONAL PERIPHERAL UPLIFT IN THE VICINITY OF CORNER POINTS OF THE NEW BRITAIN TRENCH AND THE GEODYNAMICS OF THE ORIGIN OF THE SOLOMON PLATE, by S.V. Gavrilov and A.N. Boyko..... 5
PEAK SEISMIC ACCELERATIONS, by A.A. Nikonov..... 9
SOLUTION OF INVERSE PROBLEMS OF SEISMIC PROFILING AND ITS USE IN CHECKING THE CURRENT POSITION OF THE DRILLBIT AND OF THE WELL, by A.V. Bayev and A.A. Tabakov..... 13
DETAILED MAPPING OF PELAGIC BOTTOM SEDIMENTS WITH A TOWED GEOPHYSICAL INSTRUMENT PACKAGE, by A.E. Vishnyakov, V.D. Kaminskiy, Ye. D. Lisitsyn, A.L. Piskarev, N.V. Savchenko, G.A. Cherkashov and M. Yu. Yanevich..... 18
TIME VARIATIONS IN THE CHEMICAL AND ISOTOPIC COMPOSITION OF GASES FROM THE ADZHI (UYTASH) MINERAL SPRINGS (DAGHESTAN WEDGE), by T.S. Yankovskaya, G.I. Voytov, V.P. Karpov, D.G. Osika and L.D. Osika..... 22
FREE GASES IN THE ASTHENOSPHERE AS INDICATED BY SEISMIC DATA, by V.G. Bykov and V.N. Nikolayevskiy..... 28
ELECTROMAGNETIC PRECURSORS OF THE DZHAVA-RACHA EARTHQUAKE OF APRIL 29, 1991, AS MEASURED IN THE CAUCASUS MINERAL WATERS RESEARCH AND SURVEY AREA, by A.G. Zdorov, I.V. Matveyev, V.A. Morgunov and Ye. P. Rakhmin..... 34
ALTERNATING-SIGN RESPONSE OF ROCK BLOCKS TO DYNAMIC STIMULI, by M.V. Kurlenya, V.V. Adushkin, V.V. Garnov, V.N. Oparin, A.F. Revuzhenko and A.A. Spivak..... 39
EXPERIMENTAL DETERMINATION OF THE EFFICIENCY OF SEISMIC WAVE EMISSION BY A BLAST IN AN UNDERGROUND CAVITY, by V.V. Adushkin, I.O. Kitov, O.P. Kuznetsov and D.D. Sultanov..... 42
GENERATION OF A BULK CHARGE BY DEFORMATION OF ROCKS CONTAINING PIEZOELECTRIC MINERALS, by M. Ya. Balbachan..... 47
EFFECT OF A REGIONAL FAULT ON VARIATIONS IN GROUNDWATER LEVEL ASSOCIATED WITH GEODYNAMIC PROCESSES, by I.G. Kissin, V.M. Belikov and G.A. Ishankuliyev..... 52

Page

MONITORING OF RADON IN UNDERGROUND WATER-GAS SYSTEMS OF THE KOPETDAG SEISMIC REGION, by V.M. Belikov, G.I. Voytov, D.I. Ishankuliyev and B.S. Karyyev..... 58
EFFECT OF EXPLOSIONS ON THE SEISMIC LIBERATION OF TECTONIC ENERGY, by I.O. Kitov, A.I. Ruzaykin and D.D. Sultanov..... 65
MANIFESTATION OF SEASONAL AND ANNUAL GEOLOGICAL DEFORMATION CYCLES IN THE CONCENTRATIONS OF SUBSOIL RADON, by V.L. Rudakov..... 70
GLOBAL STATISTICAL ESTIMATION OF GEOTHERMAL FLOWS IN BOTTOM SEDIMENTS OF FRESH-WATER LAKES, by S.V. Ryanzhin..... 74
DISTINGUISHING BETWEEN UNDERGROUND AND SURFACE (CONTACT) EXPLOSIONS, by V.V. Adushkin and I.O. Kitov..... 80
PREDICTION OF A SECOND STRONG EARTHQUAKE FROM THE AFTERSHOCK SEQUENCE OF AN INITIAL EARTHQUAKE, by I.A. Vorob'yeva and T.A. Levshina..... 84
HEATING OF A CONDENSED MEDIUM THAT CONTAINS A THREE-DIMENSIONAL ENERGY SOURCE, by Yu. V. Zhitnikov and Yu. I. Zetser..... 91
DETERMINATION OF THE ACOUSTIC ENERGY OF A SUBSURFACE SOURCE FROM VERTICAL RADIO SOUNDINGS OF THE IONOSPHERE, AND DISCRIMINATION OF CHEMICAL EXPLOSIONS FROM NUCLEAR SHOTS, by I.O. Kotov and M.B. Gokhberg..... 97

Volume 326

TESTING A MEDIUM-TERM EARTHQUAKE-FORECASTING ALGORITHM: REAL-TIME TEST SCHEME AND HINDCASTING RESULTS, by V.G. Kossobokov, J.H. Healy, J.W. Dewey, A.V. Khokhlov and V.I. Keylis-Borok..... 1
TIME AND PLACE VARIATION OF CRUSTAL MOVEMENTS ON MORPHOSTRUCTURES IN THE COLLISION ZONE OF THE CUBAN AND CARIBBEAN MICROPLATES, by D.A. Lilienberg and J.S. Rueda..... 5
EARTHQUAKES THAT MAY BE TRIGGERED SHORTLY AFTER SEISMIC EVENTS THAT HAVE OCCURRED FAR AWAY, by G.M. Molchan and O. Ye. Dmitriyeva..... 12
THE SEISMIC FLUX AND STRONG EARTHQUAKES IN THE NW OF THE CIRCUMPACIFIC RING, by A.V. Khokhlov, V.G. Kossobokov and V.I. Keylis-Borok..... 17
INTERACTIONS BETWEEN KARST, TECTONIC, AND SEISMOTECTONIC FACTORS IN GENERATING THE RELIEF OF THE EPICENTER ZONE OF THE 1991 RACHA EARTHQUAKE IN THE GREATER CAUCASUS, by T.P. Belousov and V.P. Chichagov..... 21
LITHOSPHERIC SAG AS A CAUSE OF CERTAIN SEISMOTECTONIC EVENTS, by Sh. A. Mukhamediyev..... 29
THE NEWTON-KANTOROVICH ALGORITHM IN DIFFRACTIONAL TOMOGRAPHY, by V.B. Surnev..... 34
NEW DATA ON UPPER MANTLE STRUCTURE IN THE BAIKAL RIFT ZONE, by Yu. F. Kopnichev..... 38

Page

MIGRATION OF HYDROCARBONS IN A SYSTEM OF TECTONIC FAULTS AND QUANTITATIVE FACTORS GOVERNING THEIR ACCUMULATION, by I.A. Garagash, V.N. Nikolayevskiy and G.S. Stepanova..... 44
QUASI-MICROPLASTIC INELASTICITY OF ROCKS, by E.I. Mashinskiy and G.G. Kochegarov..... 51

Volume 327

THE DEPENDENCE OF SEISMIC ABSORPTION CONSTANTS ON INTENSITY, by A.S. Aleshin, V.A. Brudno, N. Yu. Kozhevnikov and A.I. Luginets..... 1
BENZ(A)PYRENE POLLUTION AND HUMAN CARCINOGENIC LOADS, by Yu. A. Izrael', V.N. Vasilenko, I.F. Dlikman, I.M. Nazarov and Sh. D. Fridman..... 6
SEISMIC WAVES IN FLUID-CONTAINING POROUS ROCKS WITH VISCO-ELASTIC SKELETONS, by V.G. Bykov and V.N. Nikolayevskiy..... 9
VARIATION OF COMPOSITION OF THE RESIDUAL HYDROCARBON GAS IN THE DEPLETED RADCHENKO OIL AND GAS FIELD, DNEPR-DONETS BASIN, by G.I. Voytov, S.M. Ammosov, N.K. Privalovskiy, G.S. Korobeynik and R.N. Muragova..... 16
SPECTRAL AND STATISTICAL ANALYSIS OF THE ANOMALOUS GRAVITY FIELD OF EURASIA, by M. Ye. Artem'yev, V.M. Gordin and V.A. Kucherinenko..... 21
MICROSEISM NOISE MONITORING IN SOUTH ICELAND, by S.I. Aleksandrov and L.N. Rykinov..... 27
CONTRIBUTION TO THE THEORY OF GLACIAL PERIODS, by A.S. Monin..... 30
FRACTURE ENERGY IN A FRACTAL CRACK PROPAGATING IN CONCRETE OR ROCK, by F.M. Borodich..... 36
BOREHOLE SEISMOACOUSTIC EMISSION STUDIES IN THE PARKFIELD FORECAST AREA, by V.A. Dubrovskiy, T.V. Makevili, A.S. Belyakov, V.V. Kuznetsov and M.B. Timonov..... 41
CIRCULAR AIR CIRCULATION IN THE LAKE BAIKAL BASIN, by V. Ye. Zuyev, V.V. Antonovich, B.D. Belan, E.F. Zhbanov, M.K. Mikushev, M.V. Panchenko, A.V. Podanev, G.N. Tolmachev and A.V. Shcherbatova..... 45

Volume 327A

COMPOSITIONAL CHANGES IN WATER-NATURAL GAS SYSTEM IN THE SARTUANI THERMAL WATER FIELD, INDUCED BY THE AFTERSHOCKS OF THE APRIL 29, 1991 RACHA EARTHQUAKE, by A.V. Nikolayev, G.I. Voytov, A.O. Grinevskiy, G.S. Korobeynik and Yu. M. Miller..... 1
THE POSSIBLE NATURE OF SOLAR ACTIVITY, by Ye. I. Shemyakin..... 6
ISOTOPIC VARIATIONS IN METHANE IN NATURAL GASES FROM THE COMPLETELY EXTRACTED ABUZY (KRASNODAR PROVINCE) AND RADCHENKOVSKOYE (DNEPR-DONETS BASIN) OIL AND GAS FIELDS, by G.I. Voytov, T.R. Orlova and A.N. Katsonis..... 11
WAVE FIELDS IN A STRATIFIED GRAVITATING EARTH, by G.V. Konyukh and A.G. Fat'yanov..... 15

PARTIAL DECOUPLING IN SALT, by V.V. Adushkin, I.O. Kotov, O.P. Kuznetsov and D.S. Sultanov..... 19
ROSSBY WAVE EMISSION AND ADAPTATION OF POTENTIAL VORTICITY FIELDS IN THE ATMOSPHERE (OR OCEAN), by V.M. Gryanik..... 23
A SHORT-TERM ATMOSPHERIC ELECTRICITY PRECURSOR FOR THE MARCH 6, 1992 KAMCHATKA EARTHQUAKE, M = 6.1, by O.P. Rulenko, A.V. Ivanov and A.V. Shumeyko..... 28
MAGNETOHYDRODYNAMIC STRUCTURE OF THE EARTH'S OUTER CORE, by S.V. Starchenko..... 32
CONSTRUCTION OF DYNAMIC (MIGRATED) SECTIONS FROM REFRACTION TRACES, by A.N. Telegin and I.M. Tekhonova..... 39

GEOLOGY
Volume 322

MIDDLE TO UPPER JURASSIC AND LOWER CRETACEOUS RADIOLARIAN ASSEMBLAGES OF THE OMGON RANGE, WESTERN KAMCHATKA, by N.A. Bogdanov, G. Ye. Bondarenko, V.S. Vishnevskaya and I.N. Izvekov..... 26
NEW K-Ar AGE DATA ON IGNEOUS ROCKS OF THE TOMMOT VOLCANO-PLUTONIC COMPLEX, CENTRAL ALDAN, by V.A. Pervov, B. Ye. Kanukov and M.M. Arakelyants..... 31
THE RACHA EARTHQUAKE, GEORGIA, APRIL 29, 1991 (GEOLOGICAL SURVEY DATA), by Ye. A. Rogozhin, B.A. Borisov and B.M. Bogachkin..... 36
AGE AND GENETIC BOUNDARIES OF THE CASPIAN SYNECLISE: by A. Ye. Shlezinger..... 43
REGIONAL ORE-GEOCHEMICAL ZONATION OF THE PAMIRS, by M.M. Bezuglyy..... .46
AN INTERPRETATION OF BANDED MAGNETIC ANOMALIES IN THE OCEAN IN TERMS OF A TECTONIC INTERFERENCE MODEL, by I.N. Goryainov and A.S. Smekalov..... 50
NEW DATA ON THE STRUCTURE OF THE COCOS SEAFLOOR PLATE ON THE EXTENSION OF THE COLIMA GRABEN, by V.P. Zinkevich, R. Magakyan, L.A. Delgado-Argote and N.N. Kononkova..... 56
NEW DATA ON THE AGE OF THE VEDI OPHIOLITES (ARMENIA), by A.A. Belov, N. Yu. Bragin, V.S. Vishnevskaya, M.A. Satian and S.D. Sokolov..... 62
THE GAS HYDRATES OF THE CRYOLITHOZONE, by E.D. Yershov, Yu. P. Lebedenko, Ye. M. Chuvilin, V.A. Istomin and B.S. Yakushev..... 66
ALLOCHTHONOUS STRUCTURES OF THE SEA OF AZOV, by D.F. Ismagilov, V.I. Popkov, A.A. Terekhov and R.V. Shaynurov..... 70
OCEAN-BOTTOM DEPOSITS IN THE CENTRAL PART OF THE EMPEROR RISE (THE YOMEI AND NINTOKU GUYOTS), by M. Ye. Mel'nikov, A.V. Mechetin, T.V. Popova, G.N. Gerasimova, V.A. Kurov and V.P. Kazazayev..... 74
DEEP-SEATED CHANGE IN THE ECOSYSTEM OF NORTHERN LAKE BAIKAL DURING THE HOLOCENE, by Ye. V. Bezrukova, Yu. A. Bogdanov, D.F. Williams, L.Z. Granina, M.A. Grachev, N.V. Ignatova, Ye. B. Karabanov, V.M. Kuptsov, A.V. Kurylev, P.P. Letunova, Ye. V. Likhoshvay, G.P. Chernyayeva, M.K. Shimarayeva and A.O. Yakushin..... 79

Page

ROLE OF SHEAR DISLOCATIONS IN THE DEVELOPMENT OF MERCURY AND HYDROCARBON DEPOSITS OF THE PACIFIC MOBILE BELT, by V.S. Rozhdestvenskiy..... 84
EFFECT OF HORIZONTAL COMPRESSION ON THE EVOLUTION OF THE PLATFORM COVER UNDER THE ARAL SEA, by V.I. Popkov and D.F. Ismagilov..... 91

Volume 323

NEW FIND OF TARKHANIAN DEPOSITS ON THE CRIMEAN PLAIN, by I.M. Barg, I.V. Venglinskiy and G.V. Pasechnyy..... 36
IGNEOUS-SEDIMENTARY COMPLEXES: PROMISING SITES FOR OIL PROSPECTING, by A.N. Dmitriyevskiy, F.A. Kireyev, R.A. Bochko and T.A. Fedorova..... 40
NEW DATA ON THE JURASSIC-NEOCOMIAN STRATIGRAPHY OF THE ANADYR-KORYAK REGION, by V.A. Vishnevskaya, N.I. Filatova and A.I. Dvoryankin..... 44
GEOLOGY AND OIL AND GAS CONTENT OF ANCIENT PASSIVE MARGINS OF THE EUROPEAN AND NORTH AMERICAN PLATFORMS, by A.A. Geodekyan, A. Zabanbark and A.I. Konyukhov..... 50
ANTIMONY MINERALIZATION IN POST-ORE MIOCENE TRACHYBASALTS OF THE KOMSOMOLSK TIN-ORE REGION, by A.A. Mikhnevich, Ye. A. Radkevich and V.I. Sapin..... 55
OPHIOLITE SUTURES IN INNER MONGOLIA, by S.V. Ruzhentsev, I.I. Pospelov and G. Badarch..... 60
STRUCTURE OF THE MEXICO DEEP-SEA BASIN AND ITS COMPARISON WITH THE CASPIAN SYNECLISE, by M.P. Antipov and A. Ye. Shlezinger..... 66
MICROFOSSILS IN CHERTS FROM VENDIAN DEPOSITS OF THE IGARKA UPLIFT, by V.K. Golovenok and M. Yu. Belova..... 72
VERTICAL RANGE AND ZONING OF FIELDS OF SHALLOW INTRAGRANITE PEGMATITES IN THE SOUTHERN GISSAR, by L.N. Rossovskiy and Yu. V. Skochilov..... 76

Volume 323A

AUTOMATED ANALYSIS OF SEISMIC LINEAMENTS AND DETERMINATION OF THE STRESS FIELD IN THE CRUST OF TADZHIKISTAN, by V.A. Nikolayev and S.S. Varushchenko..... 34
NEW DATA ON BASEMENT ROCKS OF THE EQUATORIAL SEGMENT OF THE MID-ATLANTIC RIDGE, by G.B. Udintsev, B.P. Zolotarev, N.A. Kurentsova, V.A. Gutsaki, A.I. Fenogenov, N.V. Pronina, N.V. Fadeyeva and V.M. Chubarov..... 39
INFLUVIAL CINNABAR PLACERS, A NEW MERCURY-ORE TYPE IN THE NIKITOVKA ORE DISTRICT, by R.M. Bagatayev..... 47
THE LOWER PLEISTOCENE IN THE NORTHWEST GORNYY ALTAI, by A.P. Derevyanko, S.A. Laukhin, Ye. M. Malayeva, O.A. Kulikov and M.V. Shun'kov..... 51

Page

URANIUM-LEAD AGE OF THE DZHUGDZHUR ANORTHOSITES, by L.A. Neymark, A.M. Larin, G.V. Ovchinnikova and S.Z. Yakovleva..... 57
SCHEME FOR THE GLOBAL EVOLUTION OF THE EARTH, by A.M. Nikishin, V. Ye. Khain and L.I. Lobkovskiy..... 63
MODEL OF GEOLOGIC, TECTONIC AND METALLOGENIC EVOLUTION OF THE URAL EAST SLOPE IN AN INTERVAL OF COMPRESSION, by V.N. Sazonov and V.N. Ogorodnikov..... 68
ALLOCHTHONOUS STRUCTURE OF THE KOSYU-ROGOVAYA BASIN (POLAR URALS), by K.O. Sobornov and P.P. Tarasov..... 72
TECTONIC ORIGIN OF THE ROWE RISE (INDIAN OCEAN), by A.I. Pilipenko... 78
THE DISCOVERY OF AN IRON METEORITE IN THE SPURS OF THE KALAR RANGE (EASTERN SIBERIA), by L.P. Karsakov, A.V. Yevlas'yev, Yu. A. Bondarev, O.S. Kryzhanovskiy and A.M. Vel'ma..... 82
NEW DATA ON THE LATE CENOZOIC VOLCANISM OF CAPE NAVARIN (KORYAK HIGHLAND), by A.V. Koloskov, P.I. Fedorov, D.I. Golovin and S.M. Lyapunov..... 86
AN ESTIMATE OF THE INTENSITY OF FORMATION OF OCEANIC CRUST DURING THE PHANEROZOIC, by A.S. Yakubchuk and A.M. Nikishin..... 91
METALLOGENIC TAXONOMY OF THE SEA FLOOR AS RELATED TO THE THEORY OF NONLINEAR GEODYNAMICS, by I.N. Goryainov, A.S. Smekalov and Yu. M. Pushcharovskiy..... 95
STRUCTURAL AND ORE SELF-ORGANIZATION IN ARCHAEAN IRON FORMATIONS OF THE KOLA PENINSULA, by P.M. Goryainov, D.G. Yegorov and G.Yu. Ivanyuk..... 99

Volume 324

MICROFOSSILS IN CHERTS FROM THE RIPHEAN SUKHAYA TUNGUSKA FORMATION OF THE TURUKHAN PLATEAU, by V.K. Golovënoc and M. Yu. Belova..... 26
TWO DISTINCTIVE FEATURES OF THE SPATIAL DISTRIBUTION OF FERROMANGANESE NODULES ON THE WESTERN FLANK OF THE EAST PACIFIC RISE, by A.V. Il'in..... 32
THE EVOLUTION OF THE MATERIAL COMPOSITION OF THE LOWER PALEOZOIC TERRIGENOUS COMPLEXES OF THE NORTHERN AND CENTRAL TIEN SHAN, by V.L. Klishevich and S.A. Semiletkin..... 38
DIVERSITY OF ORE ASSOCIATIONS OF GOLD-SILVER DEPOSITS, by A.A. Sidorov..... 44
ENDOGENE CLASTITES, A NEW TECTONOMETASOMATIC TYPE OF FRAGMENTAL ROCKS ASSOCIATED WITH RIFTING IN THE BAIKAL AND NEPA ARCHES, by M.L. Lobanov, V.I. Sizykh, A.V. Sintsov and T.L. Strelyuk..... 48
RELATIONSHIP BETWEEN TECTONIC AND EUSTATIC FACTORS DURING CHANGES IN THE SIZE AND DEPTH OF CENOZOIC BASINS OF SOUTHERN EURASIA, by M.L. Kopp and I.G. Shcherba..... 53
COSEDIMENTATIONAL TECTONIC STRUCTURES OF THE VERKHOYAN-KOLYMA FOLD BELT, by Yu. V. Arkhipov..... 59

Page

THE MESOCYCLITIC METHOD OF DETERMINING GEOLOGIC AGE, by S.L. Afanas'yev..... 63
THE STRUCTURE AND GENESIS OF THE MALYY ANYUY RING MEGA-STRUCTURE (NORTHEASTERN RUSSIA), by V.A. Ignat'yev and V.I. Sizykh..... 67
THE RELATION OF ORE ASSOCIATIONS TO OTHER GEOLOGIC ASSOCIATIONS, by A.A.Sidorov..... 71
RIFT FORMATION, THE OZONE LAYER AND WORLD OCEAN LEVEL, by V.L. Syvorotkin and N.A. Sadovskiy..... 75
MIDDLE MESOZOIC ALLOCHTHONOUS ASSOCIATIONS OF THE NORTHWESTERN CONTINENTAL RIM OF THE PACIFIC OCEAN, by N.I. Filatova and V.S. Vishnevskaya..... 79
FIRST FIND OF MANTLE XENOLITHS IN IGNEOUS ROCKS OF THE GREATER CAUCASUS, by T.P. Belousov, B.M. Bogachkin, Yu. S. Genshaft, M.G. Kopylova, V.P. Chichagov and F.L. Yakovlev..... 86
URANIUM-LEAD AGE OF IGNEOUS ROCKS OF THE ULKAN GRABEN IN THE SOUTHEASTERN PART OF THE ALDAN SHIELD, by L.A. Neymark, A.M. Larin, S.Z. Yakovleva and B.M. Gorokhovskiy..... 92

Volume 325

FIRST FIND OF ALPINE-TYPE ULTRAMAFICS IN CENTRAL KAMCHATKA, by N.B. Kuznetsov, G. Ye. Bondarenko and L.A. Savostin..... 39
TECTONIC STRATIFICATION OF OCEANIC CRUST IN PELAGIC BASINS OF THE INDIAN OCEAN: AN ANALYSIS OF SEISMIC DATA, by A.I. Pilipenko..... 44
THE TECTONICS OF OCEANS AND NONLINEAR GEODYNAMICS, by Yu. S. Pushcharovskiy..... 49
SAMARIUM-NEODYMIUM AGE OF WOLFRAMITE FROM QUARTZ-WOLFRAMITE ORE SHOWS OF THE SAXON ERZGEBIRGE,, GERMANY, by B.V. Belyatskiy, U. Kempe and L.K. Levskiy..... 54
GEOCHEMISTRY AND TECTONIC NATURE OF ARCHEAN METAMAFIC ROCKS OF THE SUNNAGIN DOME ON THE ALDAN SHIELD, by M.Z. Glukhovskiy, V.M. Moralev and Z.I. Petrova..... 59
DEFORMATION AND STRUCTURE OF SUBSALT DEPOSITS AT THE SOUTHEAST PERIPHERY OF THE CASPIAN BASIN BEYOND THE CARBONATE ESCARPMENT, by B. Zhasklenov and A. Ye. Shlezinger..... 66
THE VETLOVSK SUTURAL COLLISION ZONE, EASTERN KAMCHATKA, by V.P. Zinkevich and N.V. Tsukanov..... 71
RELIEF AND SEDIMENTARY-COVER STRUCTURE OF THE MARATHON AND MERCURY FRACTURE ZONES, CENTRAL ATLANTIC, by A.O. Mazarovich, Yu. I. Morozov and N.N. Turko..... 76
THE TECTONIC SEGMENTS OF THE EARTH AND THE DISTINCTIVE FEATURES OF THEIR DEVELOPMENT IN NEOGAEA, by A.A. Mossakovskiy, Yu. M. Pushcharovskiy and S.V. Ruzhentsev..... 82

Page

THE DEPTH FACIES OF ORE DEPOSITS IN THE INVERSIONAL PLUTONOGENIC GOLD-QUARTZ ASSOCIATION OF NORTHERN KAZAKHSTAN, by E.M. Spiridonov..... 89
THE DATING OF THE LOWER PROTEROZOIC STRATIFIED ROCKS OF THE PATOM HIGHLAND BY THE Pb-Pb METHOD, by V.N. Sharov, N.N. Fefelov, B.V. Yablonovskiy, A.P. Shmotov, A.V. Snitko, N.V. Zarudneva, V.A. Rusakova and L.V. Fiveyskaya..... 95
HEAT GENERATION IN BLACK SHALE SEQUENCES—ITS METALLOGENIC AND GEODYNAMIC CONSEQUENCES, by I.F. Yusupova..... 99
THE ZAYSAN EARTHQUAKE OF 1990: GEOLOGIC DATA, by Ye. A. Rogozhin and A.N. Leont'yev..... 106
TRANSVERSE MAGNETIC ANOMALIES IN SPREADING ZONES OF MID-OCEAN RIDGES, by I.N. Goryainov, A.S. Smekalov, G.N. Staritsyna and V.I. Timofeyev..... 113
THE FIRST DISCOVERY OF LAMPROITE MAGMATISM IN THE SOUTHERN URALS, by L.I. Luk'yanova, A.M. Mareychev, I.M. Mashchak, G.P. Kuznetsov, V.M. Moseychuk, V.I. Petrov and V.E. Shalaginov..... 118
RUBIDIUM-STRONTIUM DATING OF THE CRYSTALLINE ROCKS OF THE MAMONTA-SHRENK BLOCK (CENTRAL TAYMYR), by L.V. Makhlayev, V.L. Andreichev, I.I. Golubëva and V.A. Markova..... 124

Volume 325A

EFFECT OF A MAIN ORE-CONTROLLING FAULT ON THE STRUCTURAL EVOLUTION OF VEIN-TYPE ORE FIELDS, by N.I. Mishin and Z.A. Stepina..... 102
A WAY OF INCREASING THE RELIABILITY OF INFORMATION ON THE STRUCTURE OF THE EARTH'S CRUST AT DEPTH AND ON THE TECTONICS OF GEODYNAMIC STUDY POLYGONS ON THE BASIS OF THE METHOD OF COMPOSITE EARTHQUAKE WAVES, by A.P. Andreyev and M.S. Erenburg..... 107
THE TWO CLASSES OF PALEOOCEANIC STRUCTURES IN CENTRAL ASIA, by A.A. Mossakovskiy, S.V. Ruzhentsev, S.G. Samygin and T.N. Kheraskova.... 112
THE FIRST QUANTITATIVE ESTIMATE OF THE GEOLOGIC EXTENT AND DISTRIBUTION OF CARBON-CONTAINING ROCKS IN THE PRECAMBRIAN, by Sv. A. Sidorenko and V.A. Tenyakov..... 117
THE TECTONICS OF THE OLËKMA-VITIM MOUNTAIN REGION, by F.M. Stupak..... 121
MULTIPLE SCALES IN THE VARIATIONS OF GROUNDWATER LEVELS AND THEIR RELATIONSHIP TO THE STRUCTURE OF THE INFILTRATION FRONT, by A.A. Berdyyev, T.A. Ashirov, G.A. Ishankuliyev and V.A. Mukhamedov..... 125
THE PALEOCLIMATE IN THE NORTHWEST OF THE GORNYY ALTAY REGION DURING THE EOPLEISTOCENE, by A.P. Derevyanko, S.M. Popova, Ye. M. Malayeva, S.S. Laukhin and M.V. Shun'kov..... 133
NEW DATA ON THE AGE OF THE PARAUTOCHTHON OF THE SAMARKA

Page

ACCRETIONARY COMPLEX IN THE SOUTHERN SIKHOTE-ALIN', by I.V. Kemkin and A.I. Khanchuk..... 139
DISTINCTIVE STRUCTURAL AND ROCK-ASSOCIATIONAL FEATURES OF THE RIPHEAN DEPOSITS OF THE ATASU-MOINTY MASSIF AND THE PROBLEM OF THE BASEMENT OF THE CENTRAL KAZAKHSTAN CALEDONIDES, by O.P. Apol'skiy..... 144
THE POSSIBILITY OF A GLOBAL BED-BY-BED CORRELATION OF SECTIONS, by S.L. Afanas'yev 149
CONTINUATION OF HEAVY BOMBARDMENT OF THE EARTH FROM OUTER SPACE DURING THE PHANEROZOIC—THE REALITY, by B.S. Zeylik..... 154
INTRAPLATE TECTONOMAGMATIC ACTIVITY IN THE WEST AUSTRALIAN (COCOS) BASIN OF THE INDIAN OCEAN (ACCORDING TO MAGNETOMETRIC DATA), by Ye. G. Mirlin, M.B. Leybov and B.D. Uglov..... 159

Volume 326

THE INTERRELATIONSHIPS AND STRUCTURE OF THE UPPER JURASSIC AND LOWER CRETACEOUS DEPOSITS IN THE SALGIR RIVER VALLEY (CENTRAL CRIMEA), by V.A. Galkin, Ye. V. Fëdorov and Bakhor Kassem.... 55
GENESIS OF THE BITUMENS IN THE PERMIAN DEPOSITS OF THE MELEKES BASIN, by L.L. Kaz'min and A.A. Gorelov..... 61
THE DEVONIAN HETEROCLASTIC ("CHAOTIC") DEPOSITS OF THE SHANTAR ISLANDS, by L.I. Krasnyy..... 65
A MECHANISM ACCOUNTING FOR CATASTROPHIC (LARGE) VOLCANIC ERUPTIONS, by Ye. V. Sharkov..... 68
FRONTAL STRUCTURE OF THE NORTH URAL THRUST BELT IN THE AREA OF THE SOCH' ANTICLINE, by K.O. Sobornov..... 73
WILSON CYCLES AND BERTRAND CYCLES, by V. Ye. Khain..... 78
POTENTIAL OF RIFT ZONES OF MID-OCEAN RIDGES FOR LARGE PYRITIC SULFIDE DEPOSITS, by I.N. Goryainov and A.S. Smekalov..... 81
NEW DATA ON THE EXTENT OF CENOZOIC TRANSGRESSIONS IN THE EASTERN LAPTEV SEA, by Yu. L. Fotina..... 88
NEW DATA ON PRESENT-DAY TECTONIC MOVEMENTS IN NORTHEASTERN CUBA, by D.A. Lilienberg and M. E. Marquez..... 92
NEW DATA ON THE UPPER QUATERNARY DEPOSITS OF THE EASTERN CRIMEA, by A.A. Nikonov, P.V. Fëdorov, Kh. A. Arslanov, S.V. Gerasimova, M.M. Pakhomov and M.G. Kozyrëva..... 98
THE REFLECTION OF TECTONIC FISSURING IN THE ELECTRICAL PROPERTIES OF THE CAPROCKS OVERLYING OIL AND GAS POOLS, by A.V. Petukhov and V.A. Zykov..... 104

Volume 327

AGE OF THE MINERALIZATION IN THE DASHKESAN DEPOSIT, LESSER CAUCASUS RANGE: FISSION TRACK DATING, by N.S. Vardzelashvili, A.N. Komarov and V.Z. Yaroshevich..... 50

Page

A NEW TYPE OF GOLD-PYRITE ORE MINERALIZATION IN VOLCANIC BELTS OF CONTINENTAL MARGINS, by V.A. Buryak and A. Ye. Perestoronin..... 56
THE EVOLUTION OF THE RELIEF OF THE OCEAN FLOOR, by A.V. Il'in..... 62
THE MAGNETOSTRATIGRAPHY OF THE POGREBYA-2 REFERENCE SECTION (IN MOLDOVA), by G.A. Pospelova, O.M. Adamenko and Z.V. Sharonova..... 67
A FILTRATION THEORY FOR A COMPRESSIBLE THREE-PHASE MIXTURE, by M.A. Rasulov and M.T. Abasov..... 73
CORRELATION OF LATE MESOZOIC-CENOZOIC MAGMATIC EVENTS IN THE PAMIR-HIMALAYAN REGION AND THE PROBLEM OF ITS GEODYNAMICS, by A.G. Vladimirov..... 78
SILICOFLAGELLATE FINDS IN THE PALEOGENE OF THE KOMANDORSKIYE ISLANDS, by A. Yu. Gladenkov..... 83
INDEPENDENT ANKARAMITE ASSOCIATION OF THE MARCUS-WAKE MOUNTAINS (CENTRAL PACIFIC), by I.N. Govorov, V.V. Kiselev, G.I. Govorov, Yu. A. Martynov and V.P. Simanenko..... 89
RELATIONSHIP BETWEEN FAULTS AND SALT STRUCTURES, by V.S. Konishchev..... 95
SUBMARINE SALT-DOME KARST AND ITS GEOLOGIC CONSEQUENCES, by G.V. Korotkevich..... 100
THE MIDDLE PALEOZOIC BELOLES'YE MEGATOLL IN THE DOBRUDJA FOREDEEP, by A. Ye. Lukin and G.L. Trofimenko..... 104
THE MIDDLE OB LATITUDINAL MERCURY BELT OF WESTERN SIBERIA, by A. Ye. Lukin and O.M. Garipov..... 109
DYNAMIC MODEL OF THE SOUTH TURANIAN PLATE RESULTING FROM THE INTERACTION OF MOVING PLATES, by P.V. Florenskiy and M.K. Akmuradov..... 114
USE OF DRILLHOLE RADIO FREQUENCY TOMOGRAPHY IN COAL FIELDS, by N. Ye. Fomenko..... 118

Volume 327A

Rb-Ar AGES OF POLAR URAL BASALTS, by V.L. Andreichev..... 44
ECONOMIC GAS-BEARING PALEOZOIC TRAVERTINES, by A. Ye. Lukin..... 48
NEW DATA ON THE RELATIONS BETWEEN THE KAMCHATKA AND ANDRIANOV COMPLEXES, CENTRAL KAMCHATKA, by L.A. Savostin, N.B. Kuznetsov, G. Ye. Bondarenko, A.L. Perchuk and T.V. Gerya..... 53
A MODEL FOR THE OCCURRENCE OF A KIMBERLITE FIELD IN TERRIGENOUS INTERMEDIATE COLLECTORS OF DIAMOND-SATELLITE MINERALS, by O.G. Saltykov and Yu. M. Erinchek..... 59
FIRST MIDDLE PLEISTOCENE DATES FOR THE PALEOLITHIC OF THE GORNYY ALTAY REGION, by A.P. Derevyanko, S.A. Laukhin, O.A. Kulikov, Z.N. Gnibidenko and M.V. Shun'kov..... 64
SUBDIVISION OF THE AMUR GROUP OF THE LESSER KHINGAN (BUREYA MASSIF), by L.P. Karsakov, N.v. Berdnikov and Ch. B. Borukayev..... 69
NONLINEAR MANIFESTATIONS OF THERMOGRAVITATIONAL INSTABILITY AND INTERNAL GRAVITY WAVES IN THE EARTH, by O.V. Petrov..... 73

Page

STRUCTURE AND EVOLUTION OF THE SAYA DE MALHA BANK, WESTERN INDIAN OCEAN, by A.I. Pilipenko..... 77
ARGUN'-AREA BENTONITE CLAYS: ORIGIN AND SCOPE FOR USE IN STORING HIGH-LEVEL RADIOACTIVE WASTES, by O.V. Andreyeva..... 83
CENOZOIC TEMPERATURE VARIATIONS IN NORTHERN EURASIA, by A.A. Velichko, S.A. Laukhin, V.P. Nechayev, V.P. Grichuk, O.B. Borisova, V.S. Volkova and T.V. Svetlichnaya..... 88
EARLY JURASSIC LAKE-SEAS AS IMPORTANT AREAS FOR PROSPECTING FOR OIL AND GAS POOLS IN WEST SIBERIA, by Yu. N. Karogodin..... 92
Rb-Sr DATING OF EAST SAYAN PRECAMBRIAN GRANITOIDS, by G.P. Sandimirova, V.I. Levitskiy, Yu. A. Pakhol'chenko and K.A. Litvintsev..... 96
MAGMATISM AND METALLOGENY IN BALTIC-SHIELD RIFT SYSTEMS, by A.D. Shcheglov, V.N. Moskaleva and B.A. Markovskiy..... 101
LATE PALEOZOIC VOLCANISM AND GEODYNAMICS OF THE NORTH PAMIR REGION, by V.L. Novikov, A. Ye. Roman'ko, F.S. Salikhov, V.V. Suprychev, L.B. Yefremova and A.T. Savichev..... 106
TECTONIC POSITION AND INTERNAL STRUCTURE OF THE EDOUGH BLOCK, ALGERIA, by Ye. F. Roman'ko and A.M. Meshki..... 111

PETROGRAPHY
Volume 322

HIGH-PRESSURE METAMORPHISM IN GABBRO-ANORTHOSITE COMPLEXES, AS ILLUSTRATED BY THE KALAR MASSIF, by V.M. Biryukov, Ye. V. Biryukov, Yu. A. Kosygin and V.S. Chuyko..... 94
ACID-BASE DIFFERENTIATION OF SALT-CONTAINING GRANITE MELTS, by A.A. Marakushev and Yu. B. Shapovalov..... 101
ORE MELTS IN CRYSTALLINE ROCKS OF THE MID-ATLANTIC RIDGE (14°40'-21°46' N), by V.N. Sharapov, V.A. Akimetsev, N.M. Podgornykh and I.M. Gaydamako..... 107
A GARNETIFEROUS GABBRO IN THE OPHIOLITES OF THE SOUTHERN SIKHOTE-ALIN' REGION, by A.I. Khanchuk and I.V. Panchenko..... 113
USE OF CONTACT METAMORPHISM TEMPERATURES TO DETERMINE WHETHER TRAPROCK SILLS WERE INTRUDED CONCURRENTLY OR AT DIFFERENT TIMES, by I.I. Likhanov and A.A. Ten..... 117

Volume 323

POTASSIC BASALTOIDS AND LAMPROPHYRES IN DIATREMES OF YAKUTIA, by A. Ya. Rotman..... 81
DISCOVERY OF LATE DEVONIAN OÖLITIC LIMESTONES IN THE CRATONIC PART OF BASHKIRIA, by K.K. Timergazin and A.K. Timergazina..... 85
PARAGONITE-CONTAINING METASOMATIC ROCKS OF THE TOMINSKOYE COPPER-PORPHYRY DEPOSIT, SOUTHERN URALS, by A.A. Grabezhev..... 89
THE PETROLOGY OF SODIUM-ALKALIC BASALTIC IGNEOUS ACTIVITY OF

Page

THE EAST AFRICAN RIFT AS INDICATED BY MAGMA INCLUSIONS IN THE MINERALS, by A.A. Gurenko, A.V. Sobolev and N.N. Kononkova..... 94
DIAMOND INCLUSIONS IN THE ROCK-FORMING MINERALS OF METAMORPHIC ROCKS, by T. Ye. Yekimova, L.D. Lavrova and M.A. Petrova..... 101
NEW DATA ON LATE CENOZOIC ALKALI-BASALTOID VOLCANIC ACTIVITY OF THE EASTERN SIKHOTE-ALIN REGION, by S.V. Yesin, A.A. Prusevich and A.V. Travin..... 104

Volume 323A

THE KUSA-KOPAN INTRUSIVE COMPLEX, THE FRAGMENT OF A LARGE LAYERED PLUTON IN THE SOUTHERN URALS, by A.A. Alekseyev and G.V. Alekseyeva..... 104
THE PARAGONITE-CLINOZOISITE-KYANITE-QUARTZ PARAGENESIS AS AN INDICATOR OF THE CONDITIONS OF HIGH-PRESSURE METAMORPHISM IN THE LOWER METAGABBROID ZONE OF THE VOYKAR OPHIOLITE ALLOCHTHON IN THE POLAR URALS, by A.A. Yefimov and T.A. Potapova..... 109
NEW DATA ON RIPHEAN VOLCANICS OF THE ATASU-MOINTY MEDIAN MASSIF IN CENTRAL KAZAKHSTAN, by V.N. Zelepugin, V.D. Voznesenskiy, A.V. Dovbnya and M.G. Papin..... 115
NEW TYPE OF BASALTIC MATTER IN THE SOLAR SYSTEM, by A.A. Yaroshevskiy and L.F. Migdisova..... 121
COMPOSITION OF PEGMATITE MELT AS INDICATED BY INCLUSIONS IN TOPAZES OF VOLHYNIA, by G.M. Tsareva, V.B. Naumov, A.D. Babanskiy, D.K. Voznyak, V.I. Kovalenko and A.I. Tsepin..... 125
NEW VARIETY OF FAULT-ASSOCIATED ALKALIC CARBONATE METASOMATITES IN THE PRECAMBRIAN OF THE BALTIC SHIELD, by L. Ya. Shmurayeva..... 130
TIME SERIES AND PARAGENESES OF ROCK ASSOCIATIONS OF THE TUVINIAN-MONGOLIAN MEDIAN MASSIF, by B.A. Blyuman..... 134
LUKHUMITES — A NEW FORM OF APOLIMESTONE WALL-ROCK METASOMATITE, by A.G. Zhabin and N.S. Samsonova..... 137
THE f_{HF}/f_{H_2O} AND K/Rb RATIOS IN A MINERALIZING MEDIUM AS INDICATORS OF THE GENETIC RELATIONSHIP AMONG GRANITES, PEGMATITES, AND PRE- AND SYNPEGMATITE METASOMATITES, by V.G. Krivovichev..... 140
MODEL ESTIMATES OF PALEOTEMPERATURES AND BURIAL METAMORPHISM DURING RIFTING, by V.V. Reverdatto, O.P. Polyanskiy and V.A. Anan'yev..... 143
MASS TRANSFER AT THE CONTACT OF HIGH-ALUMINA GNEISSES WITH METAULTRABASITES (SHARYZHALGAY COMPLEX, EASTERN SAYAN), by V.V. Seroglazov..... 147

Volume 324

ROCKS OF A HIGH-PRESSURE WEBSTERITE-GABBRO-GRANULITE SERIES IN

Page

THE "BANDED COMPLEX" OF THE KHADATA OPHIOLITE ALLOCHTHON, POLAR URALS, by A.A. Yefimov and T.A. Potapova..... 97
NEW OCCURRENCES OF RARE-METAL MINERALIZATION IN THE ALKALIC GRANITES OF WESTERN MONGOLIA, by A.D. Minon, G.V. Andreyev, G.S. Ripp, A.O. Sharakshinov, I.G. Senchukov and V.A. Tyugashev..... 103
NEW ASPECTS OF DEEP-SEATED MAGMATISM IN THE TUMANSHET-BIRYUSA WATERSHED (IRKUTSK PART OF THE SAYAN REGION), by A.P. Sekerin, Yu. V. Men'shagin and V.A. Lashchenov..... 108
MAGMATIC WATER AT 15 TO 17 kb AND ITS CONCENTRATION IN THE MELT (FIRST DATA ON INCLUSIONS IN PLAGIOCLASE FROM ANDESITE), by V.B. Naumov, I.P. Solovova, V.A. Kovalenker, V.L. Rusinov and N.N. Kononkova..... 113
NEW VARIANT OF THE OMPHACITE-ALBITE-QUARTZ GEOBAROMETER, ALLOWING FOR THE STRUCTURAL STATES OF OMPHACITE AND ALBITE, by A.L. Perchuk..... 119
METARHYOLITES AND METASILICIC TUFFS AT THE BASE OF THE PRE-URALIDE COMPLEX IN THE SUBPOLAR URALS, by Ya. E. Yudovich, M.P. Ketris and A.V. Merts..... 124

Volume 325

ESTIMATION OF THE COMPOSITION OF FLUID IN MODERATE-TEMPERATURE METAMORPHIC COMPLEXES, by G.G. Lepezin and N. Yu. Osorgin... 129
METAMORPHISM OF ULTRABASITES IN THE ATLANTIS FAULT ZONE (ATLANTIC OCEAN): EVIDENCE FOR PENETRATION OF WATER DEEP INTO THE OCEAN LITHOSPHERE, by B.A. Bazylev..... 136
MINERAL GEOCHEMISTRY AS AN INDICATOR OF THE GEODYNAMIC ENVIRONMENT OF GRANITE GENERATION, by V.V. Lyakhovich..... 140
NATURE OF LAYERING OF THE GLASS GROUNDMASS IN SILICIC EXTRUSIVES, by A.A. Marakushev and Ye. B. Yakovleva..... 145
OPHIOLITIC NATURE OF THE EARLY PROTEROZOIC COMPLEX OF THE KUOLAYARVI ZONE, MURMANSK OBLAST, by A. Ye. Roman'ko, Ye. N. Savochkina, Ye. N. Terekhov and L.B. Yefremova..... 150

Volume 325A

MICROCLINIZATION IN ULTRAMETAGENIC GRANITES OF PUTSARI ISLAND (NORTHWESTERN LAKE LADOGA REGION), by D.I. Ivanov..... 165
A NEW PETROLOGIC CRITERION FOR PRELIMINARY ESTIMATION OF THE DIAMOND CONTENT OF PLUTONIC IGNEOUS ROCKS, by S.K. Simakov and V.I. Vaganov..... 170
FIRST FIND OF ESSENTIALLY AQUEOUS HIGH-DENSITY FLUID IN MINERALS FROM ANDESITE, by I.P. Solovova, A.V. Girnis, V.B. Naumov, V.L. Rusinov, V.A. Kovalenker and I.D. Ryabchikov..... 174

Page

Volume 326

EXPERIMENTAL STUDIES ON BASICITIES OF ROCK-FORMING OXIDES, by A.A. Marakushev, A.M. Batanova and N.V. Ivanova..... 110
ABUNDANCE AND SHAPE OF PLUTONIC ULTRAMAFIC INCLUSIONS IN ALKALIC BASALT FROM SPITSBERGEN, by Yu. S. Genshaft, D.M. Dashevskaya, A.N. Yevdomikov and M.G. Kopylova..... 115
HAFNIUM IN ZIRCON FROM RAPAKIVI GRANITE, by V.V. Lyakhovich, P. Uger and P. Siman..... 122
HIGH-POTASSIUM PICRITIC BASALTS OF THE SAYAN REGION NEAR IRKUTSK, by A.P. Sekerin, Yu. V. Men'shagin, V.S. Lepin and A.G. Revenko..... 126
EXPERIMENTAL MODELING OF BIMETASOMATIC INTERACTION BETWEEN BASIC AND ULTRABASIC ROCKS AT 500° AND 1 KBAR, by I.P. Plyusnina and G.P. Zarayskiy..... 130
EVOLUTION OF PRESSURE AND TEMPERATURE IN ALTERNATIVE MODELS OF METAMORPHISM, by V.V. Reverdatto and O.P. Polyanskiy..... 134

Volume 327

MELT INCLUSIONS IN SPODUMENE AND QUARTZ FROM RARE-METAL PEGMATITES, by V. Ye. Zagorskiy, V. Yu. Prokof'yev and T.M. Kuz'mina.... 121
IRON IN THE OVOIDS OF RAPAKIVI GRANITES, by V.V. Lyakhovich and Z.T. Katayeva..... 125
EVOLUTION OF RIFT-RELATED MAGMATISM, AS ILLUSTRATED BY THE SOUTHERN MUGODZHARY, by A.A. Marakushev, N.A. Paneyakh and V.I. Sval'nova..... 129
CHURCHITE FROM LATERITIC WEATHERED MANTLES ON CARBONATITES AND THE BEHAVIOR OF RARE EARTHS IN THE SUPERGENE ALTERATION ZONE, by A.V. Lapin..... 135
ROLE OF COLLOIDS AND HYDROTHERMAL VOIDS IN THE DEVELOPMENT OF THE RHYTHMICALLY BANDED ORES OF THE DALNEGORSK BOROSILICATE DEPOSIT, by V.V. Ratkin, L.N. Khetchikov, N.V. Gnidash and V. Ye. Dmitriyev..... 140
THE HETEROGENEITY OF CARBONATITE, by S.V. Sokolov..... 145

Volume 327A

KOS'YU-ROGOV BASIN SALT ROCKS, by N.V. Stepanova..... 116
AN ULTRAMAFITE-GABBRO-NORITE INTRUSION IN THE YAN-KOLYMA MESOZOIDES, NORTHEAST RUSSIA, by P.P. Lychagin..... 120
MAGMATIC AND METAMORPHIC COMPLEXES IN THE EDUG CRYSTALLINE MASSIF, NORTH ALGERIA, by Ye. F. Roman'ko and A.M. Meshi..... 125
THERMODYNAMICS OF CRYSTALLIZATION ZONATION IN MAGMATIC BODIES, by A.N. Cherepanov and V.N. Sharapov..... 130

Page

MINERALOGY
Volume 322

A COESITE INCLUSION IN ZIRCON FROM DIAMOND-CONTAINING GNEISS OF THE KOKCHETAV BODY: THE FIRST FIND OF COESITE IN METAMORPHIC ROCKS OF THE USSR, by N.V. Sobolev, V.S. Shatskiy, M.A. Vavilov and S.V. Goryaynov..... 123
A NEW FIND OF MICROSCOPIC DIAMONDS IN METAMORPHIC ROCKS: EVIDENCE THAT THE HIGH-PRESSURE METAMORPHISM IN THE KOKCHETAV MASSIF WAS REGIONAL IN SCOPE, by V.S. Shatskiy, N.V. Sobolev, A.A. Zayachkovskiy, Yu. M. Zorin and M.A. Vavilov 128
EPR SPECTRA OF SURFACE-BOUND Fe^{3+} IONS IN POLYCRYSTALLINE QUARTZ, by R.M. Mineyeva, L.V. Bershov and I. Petrov..... 133
MORPHOLOGICAL CHARACTERISTICS OF MICROSCOPIC DIAMONDS CONTAINING TRACES OF SODIUM IN GARNETS AND OF POTASSIUM IN PYROXENES OF TWO ECLOGITE XENOLITHS FROM THE UDACHNAYA KIMBERLITE PIPE (YAKUTIA), by N.V. Sobolev, I.T. Bakumenko, E.S. Yefimova and N.P. Pokhilenko..... 138
COMPOSITION OF Pt-Fe SOLID SOLUTIONS AS AN INDEX OF THE DEPTH OF EROSION OF PLATINUM-BEARING ALKALIC-ULTRAMAFIC ANNULAR INTRUSIONS, by I. Ya. Nekrasov, V.V. Ivanov, A.M. Lennikov, R.A. Oktyabr'skiy, B.L. Zalishchak, V.I. Sapin and V.I. Taskayev..... 147
POSSIBILITY OF BACTERIAL LEACHING OF ALUMINUM FROM DAWSONITE, by L.K. Yakhontova, L.G. Nesterovich and G.G. Sidyakina..... 152

Volume 323

EFFECT OF PRELIMINARY STRESSING ON OPTICAL PROPERTIES AND DISLOCATION STRUCTURE OF OLIVINE, by A. Kh. Zil'bershteyn and Ye. A. Nemchina..... 109
ECLOGITE CONTAINING DIAMOND WITH A GARNET INCLUSION FROM THE MIR PIPE, by Z.V. Spetsius, G.P. Bulanova and W.L. Griffin..... 115
PHASE RELATIONSHIPS IN SYSTEMS CONTAINING ALKALI METALS, by M.G. Dobrovol'skaya and I. Ya. Nekrasov..... 120
GENERATION OF HIGH-PRESSURE MINERAL PHASES OF CARBON AS A RESULT OF A TEMPERATURE CRISIS IN THE SHEAR FLOW OF GRAPHITE, by M.I. Novgorodova and A. V. Rasskazov..... 126
A RARE-EARTH YTTRIUM DEPOSIT OF THE AKTYUZ ORE FIELD (SOUTHERN TIEN-SHAN RANGE), by N.V. Smirnova, I.A. Zotov, V.A. Stavinskiy, I.S. Isayev and V.F. Kim..... 130
REAL STRUCTURE AND THERMODYNAMIC PROPERTIES OF THE OLIVINE SOLID SOLUTIONS $(Fe_{1-x}Ni_x)_2SiO_4$, by L.P. Nikitina, N.O. Ovchinnikov and Ye. Yu. Khil'tova..... 134
KOLBECKITE $ScPO_4 \cdot 2H_2O$: THE FIRST FIND IN RUSSIA, by V.A. Popov and V.I. Popova..... 139
BOPYROCHLORE FROM WESTERN MONGOLIA, by P.M. Kartashov, A.V. Voloshin, Ya. A. Pakhomovskiy and V.I. Kovalenko..... 142

Page

Volume 323A

CHRYSOTILIZATION, A NEW POSTMAGMATIC PROCESS IN ULTRAMAFIC ROCKS, by O.K. Ivanov..... 153
NATURAL TOPOTAXIC INTERGROWTHS OF BRUCITE WITH PERICLASE AND THE $Mg(OH)_2 \rightleftharpoons MgO$ EQUILIBRIUM, by A.I. Gorshkov, Ye. V. Kolodyazhnaya, A.V. Mokhov and P.P. Smolin..... 159
FIRST FIND OF A MANGANESE-BEARING SILICATE IN CHAROITITES, by K.A. Lazebnik and L.V. Nikishova..... 164
SOME PATTERNS OF DISTRIBUTION AND COMPOSITIONAL VARIATION OF PLATINUM MINERALS IN THE LUKKULAYSVAARA PLUTON, NORTHERN KARELIA, by A. Yu. Barkov, A.I. Lednev and Yu. P. Men'shikov..... 170
MELT INCLUSIONS IN ZIRCONS FROM PRECAMBRIAN ROCKS OF THE ANABAR SHIELD, by V.P. Chupin, A.V. Titov, L.M. Stepanyuk and S.V. Goryaynov..... 177
EXPERIMENTAL DETERMINATION OF THE TEMPERATURE AT WHICH MICROCLINE IS STABLE, by A.M. Bychkov..... 182

Volume 324

VESUVIANITE EQUILIBRIA: EXPERIMENTS, CALCULATIONS AND PETROLOGIC APPLICATIONS, by L.P. Plyusnina, G.G. Likhoydov, I. Ya. Nekrasov and T.B. Afanas'yeva..... 131
PLATINUM-METAL MINERALS IN CHROMITE ORE FROM THE NURALI PLUTON, SOUTHERN URALS, by G.G. Dmitrenko, Ye. M. Goryacheva and G.N. Savel'yeva..... 135
SULFUR AND SELENIUM PARTITIONING BETWEEN COEXISTING MINERALS IN THE SYSTEM Ag-Sb-S-Se AT 300° C, by I. Ya. Nekrasov and S. Ye. Lunin..... 140
STIBIOCOLUSITE, $Cu_{26}V_2$ (Sb, Sn, As)$_6S_{323}$, A NEW MINERAL, by E.M. Spiridonov, A.S. Badalov and V.V. Kovachev..... 145
SCRUTINYITE, α-PbO_2, ITS SECOND FIND IN THE WORLD, by I. Ya. Nekrasov..... 150
TETRAGONAL FORM OF COPPER (I) SULFIDE IN NATURAL ORES, by I.F. Galina..... 154

Volume 325

NATIVE OSMIUM AND IRIDOSMINE IN THE GULE MASSIF, by Ye. A. Balmasova, L.S. Smol'skaya, L.A. Lopatina, G.G. Lopatin, V.G. Lazarenkov and K.N. Malich..... 154
GENESIS OF CURVED-FACED DIAMONDS OF THE TIMAN REGION AND THE URALS, by A.B. Mal'kov..... 158
NATURAL DIFFUSION OF STRUCTURAL IMPURITIES IN THE QUARTZ OF SEDIMENTARY ROCKS, by L.T. Rakov..... 162

Page

LIQUID IMMISCIBILITY-PRODUCED SEGREGATIONS OF ORE MINERALS IN BASALTS FROM THE CENTRAL SECTOR OF THE MID-ATLANTIC RIDGE, by V.A. Akimtsev and V.N. Sharapov..... 167
COMPUTER MODELING AND THE DISORDER THERMODYNAMICS OF ALBITE, by V.L.Vinograd..... 173
MODELING OF THE $C\bar{1}//I\bar{1}$ TRANSITION AND MIXING FUNCTIONS OF HIGH-TEMPERATURE PLAGIOCLASES, by V.L. Vinograd and L.L. Perchuk..... 182

Volume 325A

PRODUCTS OF THE LOW-TEMPERATURE OXIDATION OF OLIVINE $Mg_{1.78}Fe_{0.22}SiO_4$, by N.R. Khisina, D.A. Khramov, M.V. Kolosov and S.S. Meshalkin..... 179
MORPHOLOGICAL VARIATION OF ZIRCON CRYSTALS IN OROGENIC GRANITOIDS OF THE CENTRAL TIEN-SHAN REGION, by B.B. Sergunenkov..... 184

Volume 326

NEW DATA ON URANIAN MICAS CONTAINING U^{4+}, by L.N. Belova, A.I. Gorshkov, O.A. Doynikova, Yu. P. Dikov, G.V. Lyubomilova and A.V. Sivtsov..... 138
SILVER-BISMUTH MINERALIZATION IN QUARTZ VEINS OF THE KEYVY BLOCK, KOLA PENINSULA, by A.A. Kalinin and A.A. Basalayev..... 141
GENETIC TYPES OF PLATINUM-METAL MINERAL ASSOCIATIONS IN PLACERS OF THE SIBERIAN CRATON, by A.V. Okrugin, A.A. Kim and I. Ya. Nekrasov..... 145
PYROPES AND DIAMONDS FROM THE ALGERIAN SAHARA, by N.V. Sobolev, V.P. Afanas'yev, N.P. Pokhilenko, F.V. Kaminskiy, O.N. Tarasyuk and A. Henni..... 150
CRYSTAL CHEMISTRY OF NATURAL Ba-(Ti, V, Cr, Fe, Mg, Al)-HOLLANDITE, by M.T. Dmitriyeva, R.K. Rastsvetayeva, N.B. Bolotina and M.N. Novgorodova..... 157

Volume 327

NEW NICKEL-CONTAINING PARAMAGNETIC CENTERS IN DIAMOND, by A.P. Yeliseyev and V.A. Nadolinnyy..... 149
MANGANESE ORDERING IN CALCITE, by R.M. Mineyeva, L.V. Bershov, A.V. Speranskiy and N.I. Organova..... 155
MINERALOGY OF NEW OCCURRENCES OF DIAMOND-BEARING ECLOGITES FROM THE UDACHNAYA KIMBERLITE PIPE, by Z.V. Spetsius and S.M. Bezborodov..... 160
BEDROCK PLATINUM-METAL MINERALIZATION IN CHROMITITE OF THE GULI MASSIF, by K.N. Malich and N.S. Rudashevskiy..... 165

Page

Volume 327A

A NATURAL VARIETY OF HIGH-SILVER FAHLERZ WITH A LARGE UNIT-CELL PARAMETER, by Yu. Ya. Zhdanov, V.A. Amuzinskiy and N.G. Andrianov..... 134
THE CORRELATION BETWEEN KIMBERLITE COMPOSITION AND OLIVINE CONCENTRATION AND GRAIN SIZE, by I.P. Ilupin and Yu. S. Genshaft..... 139
SYNTHESIS CONDITIONS FOR Pt-BEARING SULFIDES IN THE Fe-Pt-S, Fe-Cu-Pt-S, AND Fe-Ni-Pt-S SYSTEMS, by I. Ya. Nekrasov and Ye. G. Osadchiy..... 143

GEOCHEMISTY
Volume 322

COMPOSITION AND CONCENTRATION OF GASES IN DIAMONDS OF ECLOGITE AND ULTRAMAFIC PARAGENESES IN KIMBERLITE PIPES OF YAKUTIA, by S.B. Tal'nikova, Yu. P. Barashkov and I.M. Svoren'..... 157
DIFFERENCES IN MINERALOGIC AND GEOCHEMICAL FEATURES OF RARE-METAL GRANITES, by B.A. Blyuman..... 161
THERMODYNAMIC CONDITIONS OF FORMATION OF TIN-BEARING METASOMATITES IN THE PRAVOURMIYSKOYE DEPOSIT, by N.V. Kotov and S.G. Skublov..... 165
FERRMANGANESE CRUSTS IN THE OCEAN: INDICATORS OF THE ENVIRONMENT OF ORE DEPOSITION, by Ye. S. Bazilevskaya, S.G. Skolotnev and M.I. Stepanets..... 169
THE GEOECOLOGICAL STATE OF THE AQUEOUS ENVIRONMENT IN CERTAIN INDIVIDUAL MARINE OBJECTS OF THE SHELF AROUND SAKHALIN, by A.A. Geodekyan, V.I. Avilov, S.D. Avilova, M.N. Mansurov and T.I. Kravchenko..... 176
FIRST URANIUM-LEAD DATES FOR THE TITANIFEROUS GABBRO FROM THE REGION WEST OF LAKE HÖBSÖGOL (MONGOLIA), by G.V. Polyakov, V.I. Bognibov, V.A. Khalilov and G. Chulunbator..... 180
INDICATIONS THAT PRECAMBRIAN HYDROCARBONS ARE A MAJOR COMPONENT OF THE OIL AND GAS POTENTIAL OF THE PHANEROZOIC, by V.A. Tenyakov and Sv. A. Sidorenko..... 185
TUNGSTEN MINERALIZATION OF THE UPPER ARCHAEAN SUPRACRUSTAL COMPLEXES OF THE KEYV STRUCTURE (KOLA PENINSULA), by A.A. Basalayev and A.A. Kalinin..... 188
COMPOSITION AND ORIGIN OF LOWER CRETACEOUS RIFT EXTRUSIVES OF THE CHITA-INGODA BASIN (CENTRAL TRANSBAIKALIA), by M.E. Kazimirovskiy and S.I. Dril'..... 192
GHOST ZONES IN INFILTRATION-PRODUCED METASOMATIC ZONING, by V.N. Balashov and P. Ch. Lichtner..... 197
GLOBAL GEOLOGICAL EVENTS: VARIATIONS OF $\delta^{13}C$, $\delta^{18}O$ and $^{87}Sr/^{86}Sr$ IN MAASTRICHTIAN-EOCENE CARBONATES, by D.I. Golovin, V.I. Vinogradov and M.I. Buyakayte..... 203

Page

ISOTOPIC COMPOSITION OF LEAD IN PYRITES FROM COPPER-MOLYBDENUM DEPOSITS OF MONGOLIA PRODUCED IN DIFFERENT GEODYNAMIC ENVIRONMENTS, by V.I. Sotnikov, A.P. Birzina and V.A. Khalilov..... 208

Volume 323

U-Pb DATING OF BADDELEYITE AND ZIRCON FROM IMANDRITES ON THE KOLA PENINSULA, by T.B. Bayanova and V.N. Yakovenchuk..... 147
VARIATION OF OXYGEN-ISOTOPE COMPOSITION DURING ALTERATION OF ECLOGITE TO THE AMORPHOUS STATE, by Z.V. Spetsius, V.I. Ustinov and V.A. Grinenko..... 151
GENESIS AND GEOCHEMISTRY OF THOLEIITIC MAGMATISM OF THE MID-ATLANTIC RIDGE BETWEEN LATITUDES 3° AND 5° N, by N.M. Sushchevskaya, G.B. Udintsev, T.I. Tsekhonya and N.N. Kononkova..... 156
BEHAVIOR OF OXYGEN-CONTAINING FORMS OF SULFUR IN MINERAL WATERS OF TRANSBAIKALIA, by L.A. Kondratenko, V.A. Lyubina and A.I. Yegorov..... 165
GEOCHEMISTRY AND ORIGIN OF THE TOMTOR MASSIF (NORTH SIBERIAN PLATFORM), by S.M. Kravchenko, A. Yu. Belyakov and B.G. Pokrovskiy..... 170
MAGMATIC NITROGEN AND ITS INVOLVEMENT IN EPITHERMAL ORE GENERATION, by V.G. Naumov, O.F. Mironova, A.N. Salazkin, V.A. Kovalenker and V.L. Risunov..... 177
HYDROTHERMAL ALTERATION OF ROCKS OF THE OPHIOLITE ASSOCIATION ON THE CENTRAL-INDIAN RIDGE, by L.P. Plyusnina and S.V. Vysotskiy.... 181
PLANTINUM-GROUP ELEMENT DISTRIBUTION IN MEYMECHITES OF THE MAYMECHA-KOTUY PROVINCE, by V.G. Lazarenko and K.N. Malich..... 185
GEOCHEMISTRY OF OCEANIC CRUSTAL FRAGMENTS IN EASTERN KAMCHATKA, by A.V. Fedorchuk..... 189
NEW DATA ON THE GENESIS OF LITHIUM-FLUORINE GRANITES OF THE KHANKA MEDIAN MASSIF IN MARITIME SIBERIA, by L.N. Khetchikov, I.N. Govorov, V.A. Pakhomova and D.V. Androsov..... 196

Volume 323A

PROBLEM OF THE GEOCHEMISTRY OF WATER AND THE ISOTOPE COMPOSITION OF HYDROGEN IN THOLEIITE MELTS OF THE INDIAN OCEAN, by N.M. Sushchevskaya, A.L. Devirts, Ye. P. Lagutina and V.V. Nikulin..... 187
NEW DATA ON THE CHEMISTRY OF NATURAL WATERS IN THE REGION OF ENDEMIC BONE DISEASE (KASHIN-BECK DISEASE) IN SIBERIA, by L.V. Zamana and N.M. Gladkaya..... 193
CHANGES IN THE STRUCTURAL STATE OF Fe^{3+} IONS DURING MELTING OF STRONTIAN FERRIALUMOGEHLENITE $Sr^{2}FeAlSiO_{7}$, by A.M. Bychkov, A.A. Borisov, D.A. Khramov and V.S. Urusov..... 197
A LAYERED GABBROID INTRUSION IN THE CENTRAL ZONE OF THE PRINCE CHARLES MOUNTAINS, EASTERN ANTARCTICA, by V.M. Mikhaylov, Ye. V. Mikhal'skiy, B.V. Belyatskiy and V.S. Semenov..... 203

Page

APPROXIMATE CALCULATION OF THE HENRY CONSTANTS OF NONPOLAR GASES AT TEMPERATURES ABOVE THE CRITICAL TEMPERATURE OF WATER, by A.V. Plyasunov..... 208
ELEMENTAL COMPOSITION OF MUMMYLIKE SUBSTANCES AND ASSOCIATED ROCKS, by V.I. Stanko, Yu. A. Karpov, N.A. Arakel'yan, G.M. Shmanenkova, G.P. Markov and Yu. P. Brysin..... 213

Volume 324

EVOLUTIONARY SERIES OF GRANITOIDS OF DIFFERENT AGE, BASED ON THEIR BARIUM-RUBIDIUM-STRONTIUM RATIOS, by P.G. Nedashkovskiy and A.M. Lennikov..... 159
GEOCHEMICAL INDICATORS OF HORIZONTAL DISPLACEMENTS OF OCEANIC CRUSTAL RELICTS IN KAMCHATKA, by A.V. Fedorchuk..... 164
ON THE GENESIS OF THE CUPRIFEROUS SANDSTONES OF THE KODAR-UDOKAN ZONE, by O.P. Apol'skiy..... 170
THE CORRESPONDENCE BETWEEN THE CHEMICAL COMPOSITION OF AQUEOUS EXTRACTS FROM INCLUSIONS IN MINERALS AND THE COMPOSITION OF THE MINERAL-FORMING MEDIUM, by T.M. Sushchevskaya, A.M. Yerokhin, D.N. Khitarov and L.V. Balitskaya..... 175
MINERAL BALANCE OF GERMANIUM, TIN AND LEAD IN SKARNS OF TWO DEPOSITS OF THE TURA GROUP, by N.A. Grigor'yev..... 181
GOLD CONTENT OF ORGANIC MATTER AND SHALE IN SOME UPPER VENDIAN REFERENCE SECTIONS OF THE RUSSIAN CRATON, by S.B. Felitsyn and T.G. Pshenichnova..... 186

Volume 325

MANGANESE IN COALS OF THE DONETS BASIN, by A.G. Dvornikov..... 189
DEVELOPMENT OF HYDROCARBON POOLS AND GEOCHEMICAL ANOMALIES IN THE UPPER INTERVALS OF SALT BASINS, by I.S. Starobinets..... 195
GEOCHEMISTRY OF THE RARE EARTHS AND THE GEODYNAMICS OF THE PECHENGA ZONE, KOLA PENINSULA, by A. Ye. Romanenko, V.N. Shilov, L.B. Yefremova and A.T. Savichev..... 200
ORIGINS OF THE ORGANIC MATTER OF EARLY PRECAMBRIAN ROCKS, by S.A. Sidorenko and V.A. Tenyakov..... 206
BEHAVIOR OF Cu, Ag, Pt, Pd AND Au DURING CRYSTALLIZATION OF THE STRATIFIED KIVAKK INTRUSIVE BODY (NORTHERN KARELIA), by N.F. Pchelintseva and Ye. V. Koptsev-Dvornikov..... 211
FORMS OF OCCURRENCE OF GOLD IN THE ORES OF A DEPOSIT ASSOCIATED WITH CARBON-CONTAINING ROCKS, by N.I. Razenkova, B.S. Kogan, Ye. N. Sharapova and T.V. Filippova..... 216
Rb-Sr AGE AND SOME GENETIC CHARACTERISTICS OF THE BOLSHETAGNINSK CARBONATITE COMPLEX (EASTERN SAYAN REGION), by Ye. A. Chernysheva, G.P. Sandimirova, Yu. A. Pakhol'chenko and S.V. Kuznetsov..... 219

Page

Volume 325A

FLUORINE IN WATER FROM DISPERSION TRAINS OF FLUORITE MINERALIZATION IN TRANSBAIKAL, by L.V. Zamana and Yu. V. Lesnikov..... 188
PHYSICOCHEMICAL MODEL OF EARLY DIAGENETIC PROCESSES IN BOTTOM DEPOSITS OF LAKE BAIKAL, by S.A. Kashik, V.N. Mazilov and I.K. Karpov..... 192
K-Ar DATING OF HETEROGENEOUS FELDSPAR SEPARATED INTO FRACTIONS OF DIFFERENT DENSITIES, by V.N. Melinevskiy, T.S. Yusupov, A.V. Travin, S.M. Koroleva and V.A. Ponomarchuk..... 196
RARE-EARTH ELEMENT DISTRIBUTION IN FLUORINE-BEARING MINERALS OF WOLFRAMITE DEPOSITS, by G.F. Ivanova and G.M. Kolesov..... 200
METAL CONTENT OF ORE-FORMING FLUIDS OF THE BANSKÁ ŠTIAVNICA GOLD-SILVER-POLYSULFIDE DEPOSIT, CENTRAL SLOVAKIA, by V. Yu. Prokof'yev, F.G. Reyf, Yu. M. Ishkov and V.A. Kovalenker..... 205
EFFECT OF SURFACTANTS ON THE MECHANISM AND KINETICS OF GAS-HYDRATE FORMATION, by O.B. Kutergin, V.P. Mel'nikov and A.N. Nesterov..... 211

Volume 326

ANNUAL GEOCHEMICAL CYCLICITY OF GASES IN THE SEASONAL THAWED LAYER OF DEPRESSIONS IN THE CRYOLITHOZONE, by V. Ye. Glotov..... 162
ISOTOPE COMPOSITION OF Sr AND Nd IN THE ALDAN LAMPROITES, by I.L. Makhotkin..... 166
EVALUATION OF THE ORGANIC-MATTER CATAGENESIS AS A FUNCTION OF THE POTENTIAL METHANE YIELD FROM THE SUBSTRATE, by V.B. Polyakov and E.M. Galimov..... 171
METAL CONCENTRATION IN ORE-FORMING SOLUTIONS, by F.G. Reyf, V. Yu. Prokof'yev, A.A. Borovikov, A.S. Borisenko, K.Z. Stel'machonok, V.A. Pakhomova, S.Z. Smirnov, I.T. Bakumenko, V.O. Gimon, A.P. Berzina, S.N. Stepanov, V.A. Kormushin, V.S. Karpukhina and Yu. M. Ishkov..... 176
CHARACTERISTICS OF PRESENT-DAY CARBONATE GENERATION IN LAKE SEVAN, by O.A. Alekin and D.S. Ul'yanova..... 181
ISOTOPIC COMPOSITION OF CARBON, OXYGEN AND STRONTIUM IN CARBONATE ROCKS OF THE AVAM RIVER BASIN (NORTHWESTERN SIBERIAN PLATFORM), by Yu. R. Vasil'yev, O.N. Laguta, V.G. Pavlov, A. Ya. Shevko and V.A. Ponomarchuk..... 185
GEOCHEMISTRY AND RESULTS OF RUBIDIUM-STRONTIUM DATING OF THE RARE-METAL GRANITOIDS ON THE EAST COAST OF CHAUN BAY, CHUKOTKA, by D.V. Dudkinskiy, S.V. Yefremov, V.D. Kozlov, G.P. Sandimirova and V.M. Nikolayev..... 190
GEOCHEMISTRY AND AGE OF IGNEOUS ROCKS OF THE MUSSAU RIDGE, by V. Yu. Kolobov, Yu. I. Konovalov and A.V. Travin..... 195
PLATINUM AND PALLADIUM IN BAUXITE: FIRST ESTIMATES OF THEIR ABUNDANCE AND THEORETICAL GEOCHEMICAL FEATURES, by V.A. Tenyakov, G.I. Bekov, R.S. Belkin, T.N. Lega and I.O. Shevelina..... 202

Page

Volume 327

GOLD CONTENT AND THERMAL HISTORY OF KEROGEN AND ORGANIC MACROFOSSILS FROM UPPER VENDIAN SECTIONS OF THE RUSSIAN CRATON, by S.B. Felitsyn and T.G. Pshenichnova..... 170
PARTITIONING OF BASE METALS BETWEEN GRANITOID MELT AND FLUID-SALT AND FLUID PHASES, by V. Yu. Chevychelov..... 175
ISOTOPIC AGE OF THE EARLY PRECAMBRIAN OKOLOVO GROUP OF BELARUS, by Ye. V. Bibikova, T.I. Kirnozova, I.V. Naydenko and L.L. Shatrubov..... 180
A MECHANISM OF TERRESTRIAL OUTGASSING, by G.N. Goncharov..... 185
FIRST DATA ON THE DISTRIBUTION OF ISOTOPES OF SULFATE SULFUR IN LAKE BAIKAL WATER, by A.M. Nikanorov, Yu. A. Fedorov, V.A. Grinenko and R. Krouse..... 191
EFFECT OF THE METAL CONTENT OF ORE-FORMING SOLUTIONS ON THE MOLYBDENUM CONCENTRATION IN ORES OF A DEPOSIT OF PLUTONIC ORIGIN, by K.Z. Stel'machonok and Yu. M. Ishkov..... 195
GAS JETS OF THE KUDRYAVYY VOLCANO ON ITURUP ISLAND, KURILE ISLANDS, by S.I. Tkachenko, Yu. A. Taran, M.A. Korzhinskiy, B.G. Pokrovskiy, G.S. Shteynberg and K.I. Shmulovich..... 200
GEOCHEMICAL PROPERTIES OF MINERALS AND PATTERNS OF MINERALOGIC AND GEOCHEMICAL EVOLUTION OF HYDROTHERMAL ORE DEPOSITION (AS ILLUSTRATED BY THE VAYGACH-POLAR URAL REGION), by V.I. Silayev..... 206
THE CERIUM-EUROPIUM RATIO DURING LATERITIZATION OF BASALT AND GRANITE IN SOUTHEASTERN INDOCHINA (NEUTRON-ACTIVATION DATA), by V.A. Tenyakov, M.G. Edlin, V.M. Novikov and O.A. Miloslavskaya..... 214

Volume 327A

PETROCHEMICAL CRITERIA FOR THE TECTONIC ORIGIN OF THE LOWER CRETACEOUS BASALTS IN THE WEST SAKHALIN HILLS, by V.M. Grannik, B.N. Piskunov and K.F. Sergeyev..... 147
EVALUATING SULFUR FUGACITIES AND FORMATION TEMPERATURES FOR WOLFRAMITE-SPHALERITE AND SPHALERITE-STANNITE ASSEMBLAGES AT WOLFRAMITE DEPOSITS, by G.F. Ivanova, Ye. V. Cherkasova and V.B. Naumov..... 152
REACTION OF GROUNDWATERS WITH CARBONATE ROCKS IN THE BOL'SHOY KARATAU RANGE, SOUTH KAZAKHSTAN, by A.I. Serezhnikov..... 156
ANHYDRITE STRONTIUM- AND SULFUR-ISOTOPE COMPOSITIONS AT THE ERDENETUIN-OBO COPPER-MOLYBDENUM DEPOSIT, MONGOLIA, by V.I. Sotnikov, V.A. Panomarchuk, A.P. Berzina and A.V. Travin..... 161
CHILLED-GLASS CHARACTERISTICS AND THE ORIGINS OF EPR THOLEIITIC MAGMAS, by N.M. Sushchevskaya and T.I. Tsekhonya..... 165
SCANDIUM HYDROGEOCHEMISTRY IN WATERS OF TECHNICALLY TRANSFORMED MEDIA, by L.S. Tabaksblat..... 173

Page

LIQUID-VAPOR EQUILIBRIUM AT 400 TO 600° C IN AQUEOUS SYSTEMS CONTAINING NaCl, KCl, $CaCl_2$, AND $MgCl_2$, by S.I. Tkachenko and K.I. Shmulovich..... 178
SULFIDE MINERALIZATION IN HYDROTHERMAL DEPOSITS FROM THE PIYP UNDERWATER VOLCANO, BERING SEA, by P.V. Torokhov..... 184

GEOGRAPHY
Volume 324

ESTIMATING THE DYNAMICS OF THE PERMAFROST ZONE OF NORTHERN EURASIA DURING GLOBAL CLIMATE WARMING, by A.A. Velichko and V.P. Nechayev..... 191
THICK EOLIAN DUST DEPOSITS IN THE CIRCUMARAL REGION IN 1985-1990, by Al. A. Grigor'yev and M.L. Zhogova..... 196

Volume 325

THE ACOUSTIC VELOCITY DISTRIBUTION AND THE ACOUSTIC WAVEGUIDE IN THE PELAGIC ZONE OF LAKE BAIKAL, by P.P. Sherstyankin and L.N. Kuimova..... 226

Volume 327

FRACTAL GEOMETRY OF GEOPHYSICAL FIELDS DEFINED BY SATELLITE IMAGING, by L.N., Vasil'yev and A.S. Tyuflin..... 218
DENSITY CORRECTION FOR MIXING OF FRESH WATERS, by L.N. Kuimova and P.P. Sherstyankin..... 223

Volume 327A

OPTICAL OBSERVATIONS ON FRONT GENERATION IN LAKE BAIKAL, by P.P. Sherstyankin..... 188

HYDROGEOLOGY
Volume 326

THE HYDROSTATIC DRIVE SYSTEM OF THE ASTRAKHAN SOUR GAS AND CONDENSATE DEPOSITS, by V.N. Kortsenshteyn..... 207

LITHOLOGY
Volume 324

DENSE CLAYS IN THE UPPER LAYER OF BOTTOM SEDIMENTS OF LAKE HÖBSÖGOL (MONGOLIA), by V.A. Golubev..... 200

Page

NEW FACTOR PRODUCING SUBSURFACE DELITHIFICATION OF SEDIMENTARY ROCKS, by I.F. Yusupova..... 206

Volume 325A

INFLUENCE OF EVOLUTIONARY CHANGES IN RADIOLARIA ON SEDIMENTATION, by N.A. Bogdanov and V.S. Vishnevskaya..... 216
COPROLITIC PHOSPHATE ORE SHOWS IN THE LOWER CRETACEOUS DEPOSITS OF WESTERN MONGOLIA, by N.N. Verzilin and N.A. Kalmykova..... 222

PALEONTOLOGY
Volume 322

ON THE MIDDLE HOLOCENE MIGRATIONS OF THE WARM-WATER MALACOFAUNA IN THE SEA OF JAPAN, by K.A. Lutayenko..... 212
MICROSTRUCTURE OF THE SHELL WALL IN *PUNCTATRYPA OLGAE* NALIVKIN (ATRYPIDA, BRACHIOPODA), by V.N. Komarov..... 215

Volume 326

POSSIBLE CAUSES OF THE APPEARANCE OF THE SILICIC SKELETON IN RADIOLARIANS, by M.S. Afanas'yeva and V.S. Vishnevskaya..... 211
RELICT ANTHRACOSAURS IN THE EARLY MESOZOIC OF EASTERN EUROPE, by M.A. Shishkin and I.V. Novikov..... 218

Volumee 327A

OLDEST TRIASSIC ARCHOSAURS OF EASTERN EUROPE, by A.G. Sennikov.... 194

OCEANOLOGY
Volume 323

EFFECT OF THE VERTICAL GRADIENT OF THE CURRENT VELOCITY AND OF THE SEDIMENTATION RATE ON THE DISTRIBUTION OF AN ADDITIVE RADIOACTIVE IMPURITY IN THE UPPER OCEAN, by V.V. Anikiyev, V.I. Il'ichev and V.V. Yarosh..... 200
GENERATION OF BOTTOM STORMS BY TURBIDITE (MUD) FLOWS, by M. Yu. Yemel'yanova, S.A. Kovachev and Ye. A. Kontar'..... 207
VARIATION IN THE SPECIFIC RADIOACTIVITY OF POTASSIUM IN SEA WATER, by V.I. Il'ichev, V.V. Anikiyev, Yu. A. Sapozhnikov and A.V. Merkushov..... 212
THE EFFECT OF NATURAL PROCESSES ON THE CHANGES IN POTASSIUM CONCENTRATION IN SURFACE WATERS OF THE OCEAN, by V.V. Anikiyev, A.P. Nedashkovskiy and V.I. Il'ichev..... 217

Page

OBSERVATION OF REFRACTION OF SURFACE WAVES IN THE GULF STREAM, by S.A. Grodskiy, V.A. Dulov and V.N. Kudryavtsev..... 221

Volume 323A

A RAY INVARIANT IN WAVEGUIDE PROPAGATION OF SOUND IN FLOWING FLUIDS, by O.A. Godin..... 221

Volume 324

MESOSCALE AND MICROSCALE STRATIFICATION OF THE OCEAN, by N.N. Kol'chitskiy, A.S. Monin, V.T. Paka and Z. Ye. Entin..... 212
THE RATE OF TRANSFRONTAL WATER TRANSPORT IN THE OCEAN, by A.G. Zatsepin and A.G. Kostyanoy..... 217
GEOACOUSTIC MODELS OF SEDIMENTS OF THE BALTIC AND THE BARENTS SEAS, by A.V. Il'in and I.I. Shurko..... 221
THREE-DIMENSIONAL STRUCTURE OF THE VELOCITY FIELD IN TRANSVERSE UPWELLING JETS, by A.V. Berezutskiy, A.G. Kostyanoy, S.E. Maksimov and V. Ye. Sklyarov..... 225

Volume 325A

MOVEMENT OF EDDIES OF THE ANTARCTIC CIRCUMPOLAR CURRENT AT THE EASTERN BOUNDARY OF THE WEDDELL GYRE, AS INDICATED BY SATELLITE ALTIMETRY, by V.V. Guretskiy, A.I. Danilov and D. Stammer... 228

Volume 326

POSSIBLE VORTICITY EFFECT IN LONGWAVE MOTIONS (SURGING) IN HARBORS, by A.B. Rabinovich..... 223
STRUCTURE OF UNSTEADY BOUNDARY FLOW ON AN INCLINED PLANE IN A CONTINUOUSLY STRATIFIED MEDIUM, by A.V. Kistovich and Yu. D. Chashechkin..... 228

Volume 327A

LOCAL RESPONSE OF THE ATMOSPHERIC BOUNDARY LAYER TO A MID-LATITUDE HYDROLOGICAL FRONT, by S.K. Gulev and Ye. B. Tonkacheyev..... 198
DRIFTING BUOY IN AN ANTICYCLONIC EDDY OF THE OYASHIO CURRENT, by K.A. Rogachev, E. Karmak, M. Miyaki, R. Thompson and G.I. Yurasov..... 203
THE WAKE OF A GULF STREAM MEANDER THAT STRAIGHTENED ITSELF OUT, by N.N. Golenko, A.S. Monin and V.T. Paka..... 208